CREATIVE BIOMART®
Assay Kit

1,5-Anhydroglucitol Cell-Based Uptake Assay Kit

Product Information

Cat.No. Kit-2115

Product Overview

1,5-Anhydroglucitol Uptake Assay Kit utilizes a proprietary fluorescent 1,5-AG analog, which can be taken up by cells. However, this 1,5-AG analog cannot be fully utilized in glycolytic processes and thus accumulates inside the cells. Fluorescence generated by this analog is proportional to the cellular 1,5-AG uptake. The assay can be used to monitor 1,5-AG uptake by using fluorescent microscopy and flow cytometry. Phloretin, a compound that can inhibit glucose transporter and 1,5-AG cell uptake, is included in the kit as a control. This non-radioactive assay kit is easy-to-use and allows qualitative and quantitative measurements of 1,5-AG uptake in cultured cells.

Size

50 assays

Description

1,5-Anhydroglucitol (1,5-AG) is the 1-deoxy form of D-glucose. Its level in blood plasma has been used in clinical research to investigate short-term glycemic control levels in diabetic patients. Cereals and animal source proteins constitute the main 1,5-AG source for humans. Most of 1,5-AG is absorbed by renal tubules, and its levels in human body are highly regulated and relatively consistent. Glucose can act as a competitive inhibitor of 1,5-AG in blood. Therefore, glucose levels are inversely proportional to 1,5-AG concentrations. The physiological function of 1,5-AG is not well understood. Recent studies showed 1,5-AG uptake could be associated with sodiumdependent glucose transporter.

Applications

Measurement of 1,5-Anhydroglucitol uptake in response to insulin, growth factors, cytokines, mitogens and nutrients, etc.Dual-staining of 1,5-AG transporters and 1,5-AG uptake Analysis of 1,5-AG metabolism and cell signaling in various cell typesScreening of anti-diabetic compounds

Storage

Store kit at -20°C, protected from light. Briefly centrifuge small vials prior to opening. Read entire

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protocol before performing the assay.Analysis Buffer: Ready to use. Keep on ice while in use. Store at -20 °C.AGTracker Reagent (100X): Aliquot and store at -20°C. For consistent results, avoid repeated freeze/thaw.Phloretin (100X): Bring to room temperature. Ready to use. Store at -20°C.

Kit Components

Analysis Buffer: 100 mlAGTracker Reagent (100X): 200 µlPhloretin (100X) (in DMSO): 75 µl

Detection method	FACS (488 nm excitation laser) and fluorescent microscope (excitation range 420 nm-495 nm)

Compatible Sample Types

Adherent or suspension cells

Features & Benefits

• Easy-to-use • Non-radioactive • Image and accurately measure 1,5-Anhydroglucitol uptake in cultured cells in response to insulin, growth factors etc.

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